CHECKLIST FOR PLANT DIAGNOSIS OF CROP INJURY/FAILURE

I. FIELD HISTORY
   A. Previous Crop
      1. What was planted, interval since last crop
   B. B Previous treatments
      1. Fertility
      2. Pesticides
      3. Tillage
      4. Herbicide applications – detail on calibration
   C. Environment
      1. Temperature
      2. Moisture (rainfall and soil)
      3. Weather
      4. Soil fertility
   D. Distribution of symptoms
      1. Margin vs. uniform
      2. High vs. low ground
      3. Individual plants

II. FIELD SYMPTOMS
   A. Row skips/injury confined to rows
      1. Mechanical injury
      2. Planter malfunction
      3. Excess or deficiency of water or fertilizer
      4. Soil pathogens or insects
      5. Animal or bird damage
   B. Abnormal seedlings - discolored or malformed
      1. Irregular patterns due to soil factors
         a) Nutrient deficiency
         b) Poor seedbed preparation or compaction
         c) Water related diseases
         d) Nematodes
         e) Improper pH
      2. Irregular patterns - other sources
         a) Faulty irrigation
         b) Soil pathogens or insects
         c) Airborne insects
         d) Chemical drift or misapplication
         e) Improper agitation in spray tank
         f) Mechanical injury – wind or spray blast
         g) Seasonal effects
            (1) High temperature
            (2) High Winds
            (3) Smoke cane fire, other source of smoke
            (4) Hail
            (5) Drought
III. PLANT SYMPTOMS

A. Leaf characteristics

1. Chlorosis, necrosis or discoloration
   a) Nutrient deficiencies
   b) Weather
   c) Chemical injury
   d) Insect injury
   e) Virus or fungal disease

2. Wilting or malformation
   a) Drought or salt build up
   b) Root feeding insects
   c) Chemical injury
   d) Nematodes
   e) Fungal disease

3. Leaf spots, holes or shredding
   a) Insects
   b) Chemical injury
   c) Disease
   d) Wind or hail

B. Plant Characteristics

1. Stunting or lodging (plants fall over)
   a) Chemical injury
   b) Root pathogens or insects
   c) Weather
   d) Nutrient deficiency, or excessive nitrogen
   e) Nematodes or virus

2. Discoloration of internal tissue or tunneling
   a) Plant pathogens or nematodes
   b) Insects
   c) Excessive chemical uptake

3. Proliferation, suckering, reproductive failure
   a) Chemical injury
   b) Diseases or nematodes
   c) Insect feeding
   d) Wind, drought
   e) Mechanical injury
   f) Compacted, dry soil